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BOSTON REDEVELOPMENT AUTHORITY

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WASHINGTON PARK URBAN RENEWAL AREA Project No. MASS. R-24

REPORT - PART I

ON

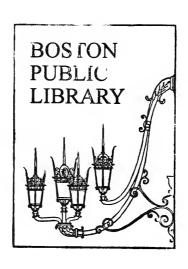
FEASIBILITY OF PLACING UTILITY SERVICES UNDERGROUND

FAY, SPOFFORD & THORNDIKE, INC Engineers Boston, Massachusetts

October, 1964



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May 4, 19 65

## CITY OF BOSTON AND COUNTY OF SUFFOLK

### DEPARTMENTAL COMMUNICATION

(NAME) (RATING) (DEPARTMENT-DIVISION)
Frederick L. Garvin Division Engineer Engineering Division

OM James W. Haley Commissioner Public Works Department

WECT:

Utilities - Edison etc. Washington Park FILE REF. No.

If you ever made any sense of this report, I would appreciate you and Thornquist enlightening me.

I have gone over it several times and end up no where - but there is a suggestion that new U.G. (underground) be installed here and there.

Therefore, we are responsible to make sure it is done (if it is to be done) before street construction.

Please advise.

JWH:ag

Commissioner James W. Haley Public Works Department Administration Services City Hall Annex Boston, Massachusetts 02109

Dear Commissioner Haley:

In the Washington Park Project we propose to place all stilities underground in areas where new construction is taking place. In areas which have rehabilitation, the private utility wiring will remain where it is. This distinction is for reasons of cost considerations only.

Although it is premeture to say, we would hope to follow the same progress in our other residential areas.

To put it another way, where we have clearance sufficient for substantial new construction, we would propose to put all wiring underground otherwise to leave it alone.

If there is any further information you need in this regard, do not hesitate to be in touch with me.

Sincerely,

**EJL/hrc** 

Rdward J. Loque

Messrs. Rowland, McGrath, Green, Tercyak, DelVecchio, DeSimone

		***	



RALPH W. HORNE WILLIAM L. HYLAND FRANK L. LINCOLN HOWARD J WILLIAMS FOZI M CAHALY
HAROLD H JONES
EDWARD C KEANE
LEON B TURNER BION A BOWMAN

### FAY, SPOFFORD & THORNDIKE, INC. **ENGINEERS**

BRIDGES AND OTHER STRUCTURES WATER SUPPLY AND SEWERAGE PORT AND TERMINAL WORKS INDUSTRIAL BUILDINGS EXPRESS HIGHWAYS REFUSE DISPOSAL AIRPORTS

VALUATIONS INVESTIGATIONS, DESIGNS SUPERVISION OF CONSTRUCTION

October 22, 1964

RICHARD W ALBRECHT LOWELL CROCKER

SSOCIATES 11 BEACON STREET . BOSTON, MASSACHUSETTS 02108 Area Code 617 • 523-8300 H LOWELL CHOCKER
ROYAL C FLANDERS
WILLIAM J HALLAHAN
CLIFFORO S MANSFIELD
NATHANIEL N WENTWORTH, JR

Mr. Wallace B. Orpin, Chief Engineer Boston Redevelopment Authority 20 Pemberton Square Boston, Massachusetts 02108

Dear Mr. Orpin:

We are pleased to submit herewith our report on the feasibility of placing power, telephone, fire alarm and police signal systems underground or along rear lot lines in Priority Areas No. 1, No. 2, No. 3 and No. 4, Washington Park, Roxbury, Project No. Mass. R-24. This report is in accordance with your letter of authorization dated September 16, 1964, and Section 15.2 of the agreement dated June 1964, between the Boston Redevelopment Authority and Fay, Spofford & Thorndike, Inc.

In accordance with the above letter of authorization, feasibility and costs for underground power and telephone house connections have not been included in the report.

In accordance with verbal instructions, we shall hold in abeyance work on areas other than the priority areas pending further authorization by the Authority.

The report is largely the result of work done by or under the direction of Mr. E. S. Warner, head of our Electrical Department, with general coordination by Mr. D. M. Thornquist, Engineer on our staff who is designated Project Engineer on our work for the Authority.

Very truly yours,

FAY, SPOFFORD & THORNDIKE, INC. EC/Ceane

ECKeane: mtm Lg-16(a) Enclosure



#### BOSTON REDEVELOPMENT AUTHORITY

## WASHINGTON PARK URBAN RENEWAL AREA Project No. MASS. R-24

#### REPORT - PART I

ON

FEASIBILITY OF PLACING UTILITY SERVICES UNDERGROUND

FAY, SPOFFORD & THORNDIKE, INC. Engineers Boston, Massachusetts

October, 1964

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#### REPORT

#### A. SCOPE

This report covers the feasibility of placing power, telephone, fire alarm and police signal systems underground or along rear lot lines wherever economically justified or required by new street construction.

A separate report is being prepared for the City of Boston Public Works Department on the street lighting system in all of Washington Park Urban Renewal Area R-24 stating recommendations and estimated costs of the work; therefore, street lighting, except as required for coordination purposes, is not covered in this report. Another separate report is being prepared covering recommended improvements to streets. Our recommendations regarding utilities in particular streets are somewhat dependent on whether street reconstruction is intended.

This report covers only the streets in Priorities No. 1, No. 2, No. 3 and No. 4 as set up in BRA Memorandum 309 dated August 14, 1964. A supplementary report, "REPORT - PART II," will be prepared covering streets outside the four above-mentioned priority areas, as requested in BRA letter to Fay, Spofford & Thorndike, Inc., dated September 16, 1964.

On all new streets, private utilities owned by the Boston Edison Company and the New England Telephone and Telegraph Company, and municipal services consisting of fire alarm and police signal systems owned by the City of Boston, will be installed underground in duct and manhole system.



### A. SCOPE (Cont.)

All fire alarm and police signal system extensions, regardless of street work recommended, will be installed underground in ducts or in duct and manhole system.

The cost estimates in this report do not cover the cost of house connections of underground electric and telephone services but only services in public ways up to private property lines.

## B. SUMMARY OF COSTS

Priority No. 1	Costs
Power Distribution System Telephone System Fire Alarm System Police Signal System	\$311,485.00 95,075.00 35,260.00 31,475.00 \$473,295.00
Priority No. 2	
Power Distribution System Telephone System Fire Alarm System Police Signal System	\$ 72,100.00 8,000.00 4,600.00
Priority No. 3	
Power Distribution System Telephone System Fire Alarm System Police Signal System	\$ 41,550.00 - 51,425.00 25,625.00 118,600.00
Priority No. 4	
Power Distribution System Telephone System Fire Alarm System Police Signal System	\$256,100.00 18,950.00 14,150.00 - 289,200.00 Total \$965,795.00
Power Distribution System Telephone System Fire Alarm System Priority Nos. 1,	2, 3 & 4 122,025.00 2, 3 & 4 105,435.00



# C. TABULATION OF STREETS, PRESENT SERVICES, RECOMMENDED SERVICES AND COST ESTIMATES

The tabulation for Priorities No. 1, No. 2, No. 3 and No. 4 which follows shows the various streets in each priority area, their length, roadway and sidewalk width, present utility and municipal services, recommended utility and municipal services, and cost estimates for recommended services.

The legends used in the tabulation are as follow:

R - Repaving of Roadway

O - Overlaying of Roadway

S - Sanitary or Storm Sewer

W - Water Mains

N. S. I. - No Street Improvements

UG-D - Underground Duct and Manhole System

UG-SF - Underground Split Fiber System

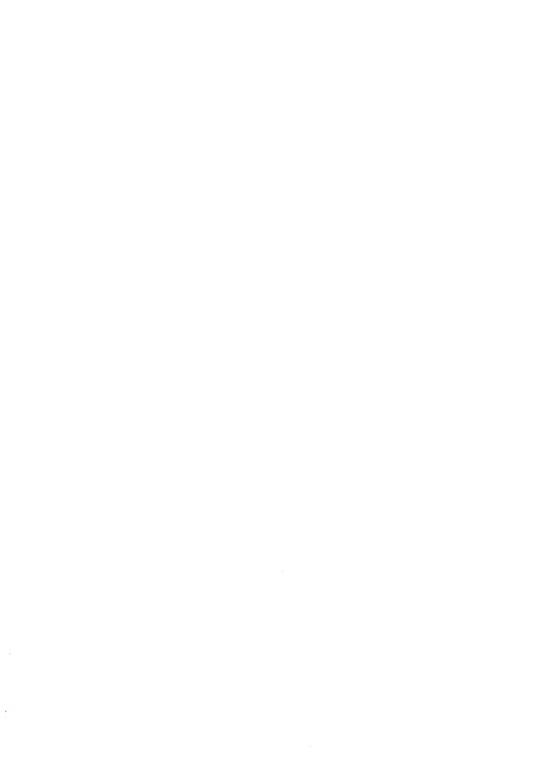
O. H. - Overhead Construction on Street

O. H. -B. L. - Overhead Construction, Back Lot

N. C. - No Change

Because of varied conditions on the different streets and even on portions of the same street, the data require explanations and clarifications which are included in the text following the tabulation.





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MUNROE	HAZELWO00	WAPREN	εψ. '	1-26-7	N	0.P.	0.H.	O. H.	U, I3 U	-	N,C,	N.C.	N.C.	U.SD.	-	-	-	~.6.0	-	* 7,500
MUNPOE	HUMBOLPT /ve.	MAROLD	7701	7-15-7	N1.	7. P.	О.н.	O.H.	-	-	M.C.	N.C.	N.C.	U.GD.	-	-	-	7.050	-	* 7.050
MUNROE	HARGLD	MALNUT AVE.	350"	76-7	٧, .١.	1.H.	0.4.	U.G U.	-	-	N.C.	N.C.	N.C.	-	-	-	-	-	-	
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TOWNSEND	HUMBOLDT AVE.	HAZEL#00D	4661	7-26-7	P=+		p.4.	O.H.	-	-	U. GD.	U.GD.	U. GD.	-	-	20.000	500	-	-	20.500
TOWNLEND	HAZELW000	VARREN	600°	7-26-7	F = r	, P.	О.Н.	0.H.	U. e U	-	U.G0	U.GD.	U. 6 D.	N.C.	-	30,006	F000	-	-	45.000
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<sup>1</sup> JEL A MITERT IN PEPORT

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<sup>\*</sup> LEE COMMENTS IN PEPPART BROTE, EXITTING WILTHS, EXCEPT FOR NEW STREETS

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* THIRF! *	HUMBOLDT AVE.	nAPPEN	157.0	7-36-7	٧, ,١,		0.4.	0.4B.L.	-	-	M.C.	U. ûD	N.C.	U.C.+O.	U.GD	-	-	13.1.5	25,625	38,750
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PRIORITY NO 3 TOTAL 41.550 - 51.425 25.625 118.600

<sup>\*</sup> LEE COMMENT IN FERORT

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nOLLANGER	POAD F"	ROAE 6'	351	7-26-7	£	U.GF.	U.6S.F	0.H -3.L.	-	-	U.6D	J.G0	N.C.	-	-	17,5.0	-	-	-	17.500
#OL non Thit	WALNUT AVE.	HAROLD	44.1	7-16-7	i,	U.S F	0.4.	0.HB.L.	-	-	H. (s. ={).	U.GD	N.C.	-	-	_2,000	-	-	-	22.000
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WARKEN	DALE	MACH. PARK BLV5.	99 1	9-35-50-9	P = 0	U, II, =0,	J. 6, -0.	y. cc	D. 1317	9.60	N.C.	N.C.	N.C.	N.C.	N, ',	-	-	-	-	-
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PRIGRITY NO. 4 TOTAL Lot, 10 15.950 14.150 -

GRAND TOTAL 681.235 122.025 135.435 57,100

289.200

965.796

<sup>\*</sup> LE SCHMENT, IN REPORT C' TU FOLCTION VIETE.

The following explanations and clarifications of the preceding tabulation are listed by priority number and street sections:

#### Priority No. 1

Charlame Street - Laurel Street to Catawba Street

All work is now under contract.

Munroe Street - Hazelwood Street to Warren Street

Munroe Street - Humboldt Avenue to Harold Street

Munroe Street - Harold Street to Walnut Avenue

In the three sections of Munroe Street listed above, no street improvements are recommended. On two sections of Munroe Street, the existing fire alarm system will be extended underground. In the absence of street improvements, it is our recommendation that the overhead power lines and telephone lines remain overhead on Munroe Street. If street repairs are undertaken, the utilities should then be placed underground.

The cost of converting overhead power lines to underground duct and manhole system would be \$88,000 for the 1760 feet of street. In addition to this cost, there would be the cost of placing 1410 feet of overhead telephone service underground which would amount to \$35,250 and make the total cost \$123,250.

Walnut Avenue - Washington Park Boulevard to Munroe Street

On Walnut Avenue, the only recommended street improvement is a pavement overlay. The power services are now underground in split



fiber ducts with conduit laterals. Information from the Boston Edison Company indicates that the existing split fiber construction for their underground lines has given them very little trouble; however, all new construction is duct and manhole system. Since the only street improvement recommended at this time is an overlay, it is our recommendation that no change be made in the power service on this portion of Walnut Avenue. When major street improvements are made, the utility services can be converted to a duct and manhole system.

The cost of converting from a split fiber duct system to a duct and manhole system, without any visible improvement to the street, would be \$27,500 for the 550 feet of street.

#### Priority No. 2

Catawba Street - Laurel Street to New Sherman Street

On Catawba Street, there are two systems of power services of which 340 feet is in an underground duct and manhole system and 190 feet is overhead. Even though there are no street improvements contemplated on this street, it is our recommendation to change the 190 feet of overhead construction to an underground duct and manhole system.

In general, our recommendations are based on the following:

Where no street improvements are contemplated and power services are underground in split fiber duct with conduit laterals, the power service should remain without change until such time as major street repairs are necessary.

Where no street improvements are contemplated and power services are overhead, the power services should remain without change until such time as major street repairs are necessary.

Where pavement overlay only is contemplated and power services are underground in split fiber duct with conduit laterals, the power service should remain without change until such time as major street repairs are necessary.

On new streets, all services will be in a duct and manhole system.

Where a street is scheduled for repaving as part of the recommended program and power service is underground in split fiber duct with conduit laterals, the power service should be converted to a duct and manhole system, and we have included this work in our estimates.

Where a street is not to be repaved until some future date, power service being underground in split fiber duct with conduit laterals, conversion of the power service to a duct and manhole system should take place at that time. This future work is not included in our estimates.



The feasibility of converting overhead power lines on streets to overhead power lines along rear lots was considered but found to be impractical in established residential areas. In addition to the problem of easements, construction costs, street crossings which should be underground in conduit from one back lot to the next, difficulty of maintenance, difficulty in feeding street lighting standards and other factors, the hazard to residents must be considered. Some high voltage lines, transformers and switches would be required. Telephone services present no such hazards.



#### D. COST ESTIMATE DETAILS

#### Power Costs

Power service costs for this report are figured on a general broad basis rather than on a breakdown cost for each individual item.

In general, the costs include manholes, duct banks, laterals to private property lines, main cable runs, lateral runs, transformers, etc.

Costs are broken down into three categories:

- (a) Cost to put overhead power services underground in duct and manhole system, at \$50.00 per linear foot of street.
- (b) Cost of new underground duct and manhole system on new streets, at \$45.00 per linear foot of street.
- (c) Cost to convert an underground split fiber system to an underground duct and manhole system, at \$50.00 per linear foot of street.

On existing streets where no street improvements are recommended, the cost of patching or new overlay is included in the costs shown above under (a) and (c).

## Telephone Costs

Telephone service costs for this report are figured on a general broad basis rather than on a breakdown cost for each individual item.



In general, the costs include manholes, duct banks, laterals to private property lines, main cable runs, lateral runs, poles, right-of-way costs, resurfacing streets, etc.

Costs are broken down into four categories:

- (a) Cost to put overhead telephone services underground in duct and manhole system, at \$25.00 per linear foot of street.
- (b) Cost of new underground duct and manhole system on new streets, at \$25.00 per linear foot of street.
- (c) Cost to convert an overhead system on a street to an overhead back lot system, at \$3.00 per linear foot of street.
- (d) Cost to convert an overhead back lot system to an overhead system on a street, at \$5.00 per linear foot of street.

Under (a) and (b) above, the cost does not include ledge excavation.



### Fire Alarm System Costs

1. Washington Park Boulevard - Warren St. to Humboldt Ave.

<u>Item</u>	Unit	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	350	\$ 10.00	\$ 3,500.00
Manhole	Ea.	1	650.00	650.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	385	1.50	577.50
				\$ 5,277.50
Engineerin	0%	1,055.50		
		Tot	tal	\$ 6,333.00
		Us	е	\$ 6,350.00

2. Washington Park Boulevard - Humboldt Ave. to Washington St.

<u>Item</u>	<u>Unit</u>	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	750	\$ 10.00	\$ 7,500.00
Manhole	Ea.	2	650.00	1,300.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	825	1.50	1,237.50
				\$10,587.50
Engineerin	2,117.50			
		Тс	tal	\$12,705.00
		Us	е	\$12,700.00



#### 3. Crestwood Park - Townsend to Townsend

(Work Completed)

#### 4. Munroe St. - Hazelwood St. to Warren St.

<u> Item</u>	Unit	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	400	\$ 10.00	\$4,000.00
Manhole	Ea.	2	650.00	1,300.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	440	1.50	660.00
				\$6,510.00
	encies 20%	1,302.00		
•			Total	\$7,812.00
			Use	\$7,800.00



5. Munroe St. - Humboldt Ave. to Harold St.

Item	<u>Unit</u>	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	400	\$ 10.00	\$4,000.00
Manhole	Ea.	1	650.00	650.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	440	1.50	660.00
				\$5,860.00
Engineerin	20%	1,172.00		
		То	otal	\$7,032.00
		Us	se	\$7,050.00

6. Townsend St. - Walnut Ave. to Harold St.

			Unit		
Item	<u>Unit</u>	Quantity	Cost		Total
3" W.I. Conduit	L.F.	50	\$ 10.00	\$	500.00
Fire Alarm Box & Pedestal	Ea.	1	400.00		400.00
Pedestal Base	Ea.	1	150.00		150.00
Cable	L.F.	55	1.50		82.50
				\$1	, 132.50
Engineering & Contingencies 20%					226.50
		То	tal	\$1	,359.00
		Us	e	\$1	,360.00

# 7. Dale Ave. - Walnut Ave. to Sherman St.

<u>Item</u>	Unit	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	225	\$ 10.00	\$2,250.00
Manhole	Ea.	1	650.00	650.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L. F.	247	1.50	370.50
				\$3,820.50
Engineerin	20%	764.10		
		То	tal	\$4,584.60
		Us	е	\$4,600.00

### 8. Crawford St. - Humboldt Ave. to Elm Hill Ave.

<u>Item</u>	<u>Unit</u>	Quantity	Unit <u>Cost</u>	Total
3" W.I. Conduit	L.F.	175	\$ 10.00	\$1,750.00
Manhole	Ea.	1	650.00	650.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	192	1.50	288.00
				\$3,238.00
Engineerin	0%	647.60		
		Tot	al	\$3,885.60
		Use	<b>;</b>	\$3,900.00



# 9. Crawford St. - Elm Hill Ave. to Warren St.

<u>Item</u>	<u>Unit</u>	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	250	\$ 10.00	\$2,500.00
Manhole	Ea.	1	650.00	650.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	275	1.50	412.50
				\$4,112.50
Engineerin	0%	822.50		
		To	tal	\$4,935.00
		Us	е	\$4,950.00

#### 10. Deckard St. - Humboldt Ave. to Warren St.

<u>Item</u>	<u>Unit</u>	Quantity	Unit Cost	Total
3" W.I. Conduit	L. F.	500	\$ 10.00	\$5,000.00
Manhole	Ea.	2	650.00	1,300.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	550	1.50	825.00
				\$7,675.00
Engineeri	0%	1,535.00		
		To	tal	\$9,210.00
		Us	е	\$9,200.00

### 11. Howland St. - Humboldt Ave. to Elm Hill Ave.

<u>Item</u>	Unit	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	580	\$ 10.00	\$5,800.00
Manhole	Ea.	1	650.00	650.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	638	1.50	957.00
				\$7,957.00
Engineerin	1,591.40			
		To	tal	\$9,548.40
		Us	е	\$9,550.00

# 12. Wabeno St. - Waumbeck St. to Wyoming St.

<u>Item</u>	Unit	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	230	\$ 10.00	\$2,300.00
Manhole	Ea.	1	650.00	650.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	253	1.50	379.50
				\$3,879.50
Engineerin	775.90			
		То	tal	\$4,655.40
		Us	е	\$4,650.00

### 13. Waumbeck St. - Humboldt Ave. to Warren St.

<u>Item</u>	Unit	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	780	\$ 10.00	\$ 7,800.00
Manhole	Ea.	2	650.00	1,300.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L. F.	858	1.50	1,287.00
				\$10,937.00
Engineerin	2,187.40			
		Tot	al	\$13,124.40
		Use	е	\$13,125.00

# 14. Wyoming St. - Wabeno St. to Warren St.

<u>Item</u>	<u>Unit</u>	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	330	\$ 10.00	\$ 3,300.00
Manhole	Ea.	1	650.00	650.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	363	1.50	544.50
				\$ 5,044.50
Engineerin	1,008.90			
	\$6,053.40			
		Use	3	\$6,050.00

# 15. Harold St. - Harrishof St. to Holworthy St.

<u>Item</u>	Unit	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	250	\$ 10.00	\$2,500.00
Manhole	Ea.	1	650.00	650.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	L.F.	275	1.50	412.50
				\$4,112.50
Engineerin	822,50			
		То	tal	\$4,935.00
		Us	e	\$4,950.00

#### 16. Harrishof St. - Harold to Humboldt Ave.

			Unit	
<u>Item</u>	Unit	Quantity	Cost	Total
3" W.I. Conduit	$\mathrm{L}_{\bullet}\mathrm{F}_{\bullet}$	500	\$ 10.00	\$5,000.00
Manhole	Ea.	2	650.00	1,300.00
Fire Alarm Box & Pedestal	Ea.	1	400.00	400.00
Pedestal Base	Ea.	1	150.00	150.00
Cable	$L_{\bullet}F_{\bullet}$	550	1.50	825.00
				\$7,675.00
Engineerin	1,535.00			
	\$9,210.00			
		Use	Э	\$9,200.00

## Police Signal System Costs

1. Washington Park Boulevard - Humboldt Ave. to Washington St.

<u>Item</u>	Unit	Quantity	Unit Cost	Total
3" W.I.Conduit	L. F.	700	\$10.00	\$ 7,000.00
Manholes	Ea.	3	600.00	1,800.00
Police Box, Light, Post	Ea.	1	1 85. 00	185.00
Police Box Base	Ea.	1	150.00	150.00
Cable	L. F.	770	3.00	2, 310.00
				\$11,445.00
	Engineering & (	Contingencie	s 20%	2, 289. 00
			Total	\$13, 734. 00
			Use	\$13,750.00

2. Humboldt Ave. - Washington Park Boulevard to Walnut Ave.

<u>Item</u>	<u>Unit</u>	Quantity	Unit <u>Cos</u> t	Total
3" W. I. Conduit	L. F.	550	\$10.00	\$ 5,500.00
Manholes	Ea.	2	600.00	1, 200.00
Cable	L.F.	605	3.00	1,815.00
				\$ 8,515.00
	Engineering & Co	ntingencies	20%	1,703.00
			Total	\$10, 218.00
			Use	\$10, 225.00

#### 3. Townsend St. - Walnut Ave. to Harold St.

<u>Item</u>	<u>Unit</u>	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	400	\$ 10.00	\$ 4,000.00
Manhole	Ea.	1	600.00	600.00
Police Box, Light, Post	Ea.	1	185.00	185.00
Police Box Base	Ea.	1	150.00	150.00
Cable	L.F.	440	3.00	1,320.00
				\$ 6,255.00
Engineerin	ng & Cont	ingencies 20	%	1,251.00
		Tota	al	\$ 7,506.00
		Use		\$ 7,500.00

#### 4. Waumbeck St. - Humboldt Ave. to Warren St.

Item	Unit	Quantity	Unit Cost	Total
3" W.I. Conduit	L.F.	1,400	\$ 10.00	\$14,000.00
Manholes	Ea.	4	600.00	2,400.00
Police Box, Light, Post	Ea.	1	185.00	185.00
Police Box Base	Ea.	1	150.00	150.00
Cable	L.F.	1,540	3.00	4,620.00
				\$21,355.00
Engineering & Contingencies 20%				4,271.00
		Tota	al	\$25,626.00
		Use		\$25,625.00

#### E. PLAN

The plan accompanying this report shows Priority Areas No. 1, No. 2, No. 3 and No. 4. The markings in the various streets indicate only the power services and show a composite picture of both existing construction and our recommended construction as indicated in the tabulation in paragraph "C."

Washington Park
Fay, Spofford & Thorndike,
Inc.
Feasibility of placing utility services underground.

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Washington Park
Fay, Spofford & Thorndike, Inc.
Feasibility of placing utility
services underground.



